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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/517,201	12/08/2004	Takenobu Arima	L9289.04190	7600

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EXAMINER

ANYIKIRE, CHIKAODILI E

ART UNIT	PAPER NUMBER
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2621

DATE MAILED: 11/29/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/517,201

Applicant(s)

ARIMA, TAKENOBU

Examiner

Chikaodili E. Anyikire

Art Unit

2621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12/08/2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 December 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 20050307.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application
- ☐ Other: _____.

DETAILED ACTION

Abstract

1. The abstract of the disclosure is objected to because an incorrect labeling to fig 3 in the drawings. The applicant references fig 3, 106c as 160c in the abstract. Correction is required. See MPEP § 608.01(b).

Specification & Drawings

1. The disclosure is objected to because of the following informalities: Drawings 106c is incorrectly referenced as 160c in the specification. The error is located on Fig 3 and sections 0053, 0062 on pages 3 and 4.

Appropriate correction is required.

Claims Rejections – 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 - 6 rejected under 35 U.S.C. 103(a) as being unpatentable over Oishi et al. (US 6,028,894), in view of Sipila (US 6,816,717).

As stated in the MPEP § 2111.02 (please see also *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 – CCPA 1951), if the preamble of the claim neither recites the limitations of the claim nor is necessary to give life, meaning, and vitality to the claim; then the preamble of the claim is not served to further define the structure of the claim. Thus, in regards to Claim 3 and 4, the preamble of the claim is not given any patentable weight since the preamble of the claim neither recites the limitations of the claim nor is necessary to give life, meaning, and vitality to the claim in regards to the radio base station in claim 3 and the communication terminal in claim 4.

4. As per claim 1, 3, and 4 Oishi et al discloses a radio receiver apparatus (Fig 1, 11 and 13, and Fig 7) comprising:

- an averaging section (Fig 7, 52) that averages received known symbols per path (Col 8, Ln 9-12) across a plurality of slots;

- a desired signal power calculation section (Fig 7, 53) that calculates desired signal power per path using averaged known symbol (Col 8, Ln 31-37);

- a subtraction section (Fig 7, 56) that calculates a deviation of said received known symbol from said averaged known symbol per path (Col 8, Ln 51-53);

- an interference signal power calculation section (Fig 7, I;) that calculates interference signal power (Col 8, Ln 49-54),

- a desired signal power to interference signal power ratio calculation section (Fig 7, 57) that calculates a ratio of desired signal power to interference signal power using desired signal power and interference signal power (Col 8, Ln 25-29).

However, Oishi et al does not explicitly teach, "a weighting control section that performs weight control on said deviation per path" or "by adding a vector using the weight-controlled deviation".

In the same field of endeavor, Sipila discloses the estimation of a signal to interference ratio in a cellular communication system. Sipila teaches an estimate for interference is the weighted sum of individual interference estimates along each of a plurality of multi-paths, weighted according to estimates of the signal power, likewise along each of a plurality of multi-paths. Sipila teaches that a generation of the SIR can include a combined interference estimate by weighting the interference estimate for each path by the estimated power level for that path (Col 2, Ln 39 – 44), which describes the weighting control section that performs weight control on said deviation per path. Sipila also teaches summing the weighted interferences estimates over all of the paths (Col 3, Ln 2 –6), which relates to adding a vector using weight-controlled deviation.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to provide a weighting control section that performs weight control on said deviation per path and by adding a vector using weight-controlled deviation in the device of Oishi and the advantage would be to correctly take into account the use of orthogonal spreading codes in a multi-path environment (Col 2, Ln 21 –33).

5. As per claim 2, Sipila discloses, "wherein said weight control section uses the desired signal power per path as a weight factor (Col 2, Ln 39-43)".

6. As per claim 5, Oishi et al discloses a SIR calculation method through the radio receiver apparatus (Fig 1, 11 and 13, Fig 7) comprising:

averaging (Fig 7, 52) received known symbols per path (Col 8, Ln 9-12) across a plurality of slots;

calculating desired signal power (Fig 7, 53) per path using averaged known symbol (Col 8, Ln 31-37);

calculating a deviation of said received known symbol from said averaged known symbol per path (Col 8, Ln 51-53);

calculating interference signal power (Col 8, Ln 51-52) ; and

However, Oishi et al does not explicitly teach, "a weighting control section that performs weight control on said deviation per path" or "by adding a vector using the weight-controlled deviation".

In the same field of endeavor, Sipila discloses the estimation of a signal to interference ratio in a cellular communication system. Sipila teaches an estimate for interference is the weighted sum of individual interference estimates along each of a plurality of multi-paths, weighted according to estimates of the signal power, likewise along each of a plurality of multi-paths. Sipila teaches that a generation of the SIR can include a combined interference estimate by weighting the interference estimate for each path by the estimated power level for that path (Col 2, Ln 39 – 44), which

describes the weighting control section that performs weight control on said deviation per path. Sipila also teaches summing the weighted interferences estimates over all of the paths (Col 3, Ln 2 –6), which relates to adding a vector using weight-controlled deviation.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to provide a weighting control section that performs weight control on said deviation per path and by adding a vector using weight-controlled deviation in the device of Oishi and the advantage would be to correctly take into account the use of orthogonal spreading codes in a multi-path environment (Col 2, Ln 21 –33).


7. As per claim 6, Sipila discloses, “wherein said step of weight control uses the desired signal per path as a weight factor (Col 2, Ln 39-44)”

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chikaodili E. Anyikire whose telephone number is (571) 270 -1445. The examiner can normally be reached on Monday to Friday, 7:30 am to 5 pm, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Edouard can be reached on (571) 270 - 1455. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CEA



PATRICK N. EDOUARD
SENIOR PATENT EXAMINER